



Maintenance

**AIRCRAFT ARMING, DEARMING AND HUNG
ORDNANCE OR JAMMED GUN PROCEDURES**

COMPLIANCE WITH THIS INSTRUCTION IS MANDATORY

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This instruction establishes procedures, safety precautions, equipment requirements and responsibilities for arming or dearming of aircraft including those with unexpended, hung ordnance or jammed guns. It implements AFPD 21-2, *Nonnuclear and Nuclear Munitions*. References AFMAN 91-201, *Explosive Safety Standards*, AFOSH STD 91-66, *General Industrial Operations*, T.O. 11A-1-33, *Handling and Maintenance of Explosives*, Applicable aircraft munitions T.O.s and checklist, Applicable 60 series T.O.s, 75 CEG/CED Explosive Ordnance Disposal Division (EOD), OO-ALC-HAFBI 13-201, *Air Traffic Control and Flight Operations*. This instruction applies to all personnel, including TDY units, engaged in the arming or dearming of aircraft or the handling of hung ordnance at Hill AFB, Utah.

SUMMARY OF REVISIONS

This revision adds requirement of maximum net explosive weight (NEW) (paragraph 3.); changes requirement for personnel limits in arm or dearm area (paragraph 4.); changes requirement for wear of reflective vest or belt (paragraph 5.1.8.); includes procedures for forward-firing hazards (paragraph 6.2.2.); clarifies procedures with an aircraft returning with hung AGM-65 ordnance (paragraph 6.2.4.); added requirement for Maverick in a safe condition (paragraph 6.2.5.); adds requirements for personnel with safety pins must keep clear of engine intake, exhaust, and suspected hot brakes (paragraph 7.2.). An * indicates revisions from the previous edition.

1. Responsibilities:

1.1. **Weapons Flight Chief.** Ensures that all end-of-runway (EOR) crew members are thoroughly familiar with the provisions of this instruction.

1.2. **75 CEG/CED (EOD).** Maintains the capability to respond to emergencies involving unsafe ordnance with at least two qualified EOD personnel.

1.3. **Debrief Dispatch Section (DDS).** Notifies weapons expediter when any hung ordnance, jammed gun or weapons abnormality occurs.

2. Definitions:

2.1. **Live Ordnance.** Ordnance containing high explosives, pyrotechnic or white phosphorous filler are considered live.

2.2. **Practice or Training Ordnance.** Ordnance used for target practice or training; practice bombs containing either an inert filler or a spotting charge, 20mm TP, BDU-33, captive AIM-9/ AIM-120.

2.3. **Inert Ordnance.** Any ordnance item void of explosives pyrotechnic propellant mixtures.

2.4. **Hung Ordnance.** Any ordnance of which an attempt to release, jettison, launch, or fire from an aircraft did not actuate as designed.

2.5. **Jammed Gun.** An inadvertent gun system stoppage.

2.6. **EOD.** Explosive ordnance disposal.

2.7. **WSS.** Weapons standardization section.

***3. Explosive Limits.** As required to meet mission requirements. Maximum net explosive weight on returning aircraft will be 3985 lbs. NEW.

***4. Personnel Limits:**

4.1. Limit the number of personnel in arm or dearm area to the minimum necessary to meet mission requirements. Mission requirement is one supervisor, three workers, and two casuals.

4.2. If hung ordnance operations are necessary, the senior 2W1X1 at the scene determines the maximum number of personnel allowed within the area, not to exceed above personnel limits. If EOD personnel are dispatched to the aircraft, they will assume command of the scene.

5. Equipment Requirements:

5.1. Equipment needed for arm or dearm operations include:

5.1.1. Proper ear protection devices for each individual.

5.1.2. "High noise level" headset and communication cable.

5.1.3. Aircraft chocks.

5.1.4. Applicable arm and dearm tool kits and technical data.

5.1.5. One fire extinguisher (Halon 1211 or equivalent).

5.1.6. At least one complete set of aircraft ground safety gear.

5.1.7. Lite alls for night operations.

*5.1.8. Reflective vest or belt, if nighttime operations are performed.

5.2. Hung ordnance equipment requirements include:

5.2.1. Equipment previously noted for arm or dearm operations.

5.2.2. Applicable munitions handling gear and equipment.

5.2.3. EOD tools and technical data (if applicable).

6. Location of Operation:

6.1. Arm or dearm operations are normally accomplished in the designated arm or dearm areas at EOR. External fuel tanks aircrew ejection systems and captive AIM-9/AIM-120 missiles may be armed or dearmed on the aircraft-parking ramp. During exercises and contingency operations, aircraft may be armed in their parking locations with the exception of the gun and chaff/flare pins. The gun and chaff/flare pins are removed at EOR under all circumstances.

6.2. Aircraft returning with hung ordnance or jammed guns are dearmed as follows:

6.2.1. Aircraft returning with hung BDU-33\BDU-50 practice bombs, or inert munitions items, are dearmed/safed at EOR and directed to the parking location for downloading.

*6.2.2. Aircraft returning with a jammed gun is dearmed/safed, if possible, at EOR and directed to park on either S-11 or S-12 of 419 FW parking ramp. If the aircraft gun is determined by the senior 2W1X1 to be in an unsafe condition present forward-firing hazards, or if 370 tanks are installed the aircraft will be directed to a hot pad and pointed at a berm.

6.2.3. Aircraft returning with live ordnance are dearmed/safed, if possible, at EOR and directed to hot pad for downloading. Aircraft with forward firing ordnance are pointed at the berm.

*6.2.4. Aircraft returning with a hung AGM-65 will stop at EOR to perform EOR procedures and to ensure all ordnance is safe. If Maverick is found armed or in an unsafe condition, the aircraft will be turned over to EOD for evaluation then, the aircraft will park on the designated hot pad pointing at the berm. All other returning aircraft will maintain a distance of 300'. Aircraft engines will be shut down, and aircrew and all nonessential personnel will be evacuated to a distance of 300 feet initially and download will not proceed until cleared by qualified EOD. The on scene commander may adjust withdrawal distance after evaluating the situation (AFMAN 91-201, 2.24.)

*6.2.5. If the Maverick is in a safe condition, the aircraft will return to the appropriate hot pad. Aircraft will park with Maverick pointing at the berm.

7. Safety Precautions:

7.1. Arm or dearm supervisor ensures area is free of foreign objects.

*7.2. Personnel with safety pins must keep clear of engine intakes, exhaust, and suspected hot brakes. Pins are normally stored in the appropriate aircraft storage compartments. During arming operations, account for all pins prior to launch. During dearming operations, care is taken to ensure all pins are properly seated in their stations.

7.3. Do not position personnel, equipment, or vehicles directly in front of, or in back of, forward firing ordnance.

7.4. Personnel stay clear of the area beneath the chaff/flare modules after the safety pin has been removed.

7.5. Aircraft marshaller wears a reflective type vest.

8. Emergency Procedures. In the event of an emergency, comply with the procedures on the emergency page of the appropriate checklist. Ensure the pilot or aircrew is aware of the emergency and, if necessary, assist them in evacuating the aircraft. Notify debrief/dispatch section by phone or radio and provide the following information:

8.1. Type of aircraft.

8.2. Nature of emergency.

8.3. Location.

8.4. Number of persons aboard.

8.5. Types and quantities of ordnance aboard.

9. Sequence of Operations, Arming or Dearming:

9.1. Inspect and make safe all aircraft carrying live munitions prior to taxiing to their parking spot. Only qualified personnel are authorized to install or remove safety pins, devices, or protective covers.

WARNING: Aircraft is parked in the designated spots in the arm or dearm areas and one main wheel is chocked prior to starting arm or dearm operations. The aircraft will not be approached for arming or dearming until the aircrew member places both hands in full view. The aircraft marshaller is responsible to make sure that all aircrew member's hands remain in full view and

that no vehicles are parked directly in front of, or in back of, the aircraft during arm or dearm operations.

9.2. When an aircraft clears the runway and stops immediately in the dearm area in other than a normal dearming position, the dearm crew chocks the aircraft and establishes communications with the pilot. EOR determines the condition of the aircraft and direct it to the appropriate area as prescribed by paragraph 7 of this instruction.

9.3. Arming or dearming operations begin after EOR personnel have completed the aircraft EOR inspection and personnel are clear of the aircraft. A qualified munitions loading crew chief or sub-crew chief is responsible to supervise the arming or dearming operations.

9.4. EOR munitions loading crew chief or sub-crew chief ensures that all safety pins, safety devices and protective covers are removed or installed as appropriate, that intervalometers are set as required; and that all other switch settings are correct according to mission and technical data requirements.

9.5. If any difficulties are encountered while arming or dearming an aircraft, inform the aircrew. When dearming aircraft, if armament safety pins or devices cannot be fully installed, advise the aircraft commander to shut down engines. Debrief/dispatch section notifies the applicable production superintendent to respond to EOR to evaluate the situation. If the problem cannot be corrected, inform MCF to request EOD/WSS assistance.

9.5.1. A senior 2W1X1 inspects all aircraft with hung ordnance to determine the safe or unsafe condition. Dearm crew installs ground safety pins. If ordnance is considered to be unsafe, notifies EOD and evacuates the immediate area.

9.5.2. A senior 2W1X1 assigned to the WSS is notified to respond to determine the condition of ordnance on non-F-16 mission design aircraft. If ordnance is considered to be unsafe, WSS notifies EOD and evacuates the immediate area.

10. Aircraft with Hot Brakes. Use extreme caution when approaching an aircraft with suspected hot brakes. The following procedures apply when dearming aircraft with hot brakes:

10.1. Take no action to make safe, download, or remove any munitions from aircraft with hot brakes until the fire department representative indicates that the aircraft brakes have sufficiently cooled.

10.2. After released by the fire department, aircraft proceeds to the dearm area.

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